

BIOGREASE HD

Overview: BIOGREASE HD is a readily biodegradable, minimally toxic Lithium 12-OH Stearate grease formulated to provide high film strength, withstand high operating temperatures, and maintain excellent stability. BioGrease HD features a high viscosity base oil for high load carrying capabilities. BioGrease HD also has excellent anti-wear and water washout properties. It is designed for heavy-duty use in a variety of industrial, mobile, and marine applications. Available in NLGI grades 1 and 2.

Specifications, Approvals, Recommendations:

- USDA BioPreferred Program
- Classified as Environmentally Acceptable Lubricants (EAL's) as per the EPA's 2013 U.S. Vessel General Permit (VGP)

Physical Properties	HD #1	HD #2
NLGI Grade	1	2
Penetration, ASTM D217	310-340	265-295
Color	Amber	Amber
Texture	Smooth	Smooth
Viscosity, ASTM D445 @40°C, cSt	220	220
Viscosity, ASTM D445 @100°C, cSt	45.6	45.6
Flash Point, ASTM D92, °F (°C)	520 (271)	520 (271)
Fire Point, ASTM D92, °F (°C)	550 (287)	550 (287)
Copper Corrosion, ASTM D4048	1A	1A
Dropping Point, ASTM D2265, °F (°C)	>350 (176)	>350 (176)
Water Washout, ASTM D1264, % loss max	6%	6%
Rust Test, ASTM D1743, A & B	PASS	PASS
Rust Test, ASTM D5959, 1% Synthetic Sea Water	PASS	PASS
Timken OK Load, ASTM D2509, lbs	55	55
U.S. Steel Mobility, USS LT-37, gm/min		
@ 77° F	2574	1168
@ 20° F	393	166
@ 0° F	106	36
4 Ball EP Weld Load, ASTM D2596, kg	315	315
4 Ball Wear, ASTM D2266, mm	.50	.50
Environmental Stewardship: Meets EPA requirements to be classified as an EAL per the 2013 VGP		
Readily Biodegradable (meaning>60%) OECD 301B, %	PASS >75	PASS >75
Minimally Toxic OECD 201 - Algae (EC 50), 72 hr, mg/L OECD 202 - Daphnia (EC 50), 48 hr, mg/L OECD 203 - Fish (LC 50), 96 hr, mg/L	PASS >26,000 mg/L >13,000 mg/L >40,000 mg/L	PASS >26,000 mg/L >13,000 mg/L >40,000 mg/L
Not Bioaccumulative* [*Calculated value as per EPA standard]	PASS	PASS
Additional Environmental Features and Characteristics		
Bio-based Content, ASTM D6866, %	90	90

Applications & Industries: Any industry (hydroelectric powered dams, construction, refuse, mining, dredging, marine, agriculture, oil & gas, plant operations, etc.) utilizing equipment with a need for a heavy duty grease, especially systems where a release into the environment is possible or where a leak or spill could reach a waste stream. Suitable for use in automatic lubrication systems or via manual application.

